## ABSTRACT

There is disclosed herein a waveguide rotator for use with a dual polarization waveguide probe system. The waveguide has an internal structure that protrudes into the waveguide such that a first orthogonal component of the incident polarized signal propagates to the end of the waveguide and is reflected therefrom and the second orthogonally polarized component is cut-off by the protruding structure which narrows the waveguide, at a distance from a short circuit at the end of the waveguide, and is reflected substantially at the cut-off point, the cut-off point being frequency dependant. At some predetermined distance from the reflecting means and the cut-off point, the first component and the second component are recombined such that the polarization of the recombined structure is rotated 90° from the incident polarization. The protruding interior surface creates a pocket or cavity behind the waveguide into which components from a circuit board can be inserted.